



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09 998,273	11 30 2001	Yixiang Duan	S-94,765	6733

35068 7590 08 21 2003

UNIVERSITY OF CALIFORNIA
LOS ALAMOS NATIONAL LABORATORY
P.O. BOX 1663, MS A187
LOS ALAMOS, NM 87545

EXAMINER

BROWN, KHALED

ART UNIT	PAPER NUMBER
----------	--------------

2877

DATE MAILED: 08 21 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,273

Applicant(s)

DUAN ET AL.

Examiner

Khaled Brown

Art Unit

2877

✓

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4,6,11,13-17,19,24,26-32,34,40,41,42,48,50 are rejected under 35 U.S.C. 102(e) as being anticipated by Spangler (US 6124592).

Re clms 1-4,6,11,13-17,19,24,26-32,34,40,41,42,48,50: Spangle discloses a pulsed, atmospheric pressure plasma apparatus for generating and analyzing light emission characteristics of species in the plasma, which comprises in combination (Fig 39): an electrically insulating hollow tube (Fig 3), a grounded metallic electrode (lower electrode of parallel plate capacitor), a second metallic electrode (upper electrode of parallel plate capacitor), means for flowing gas in which the species is entrapped through said hollow tube (Drift gas with sample), a high voltage dc pulse generator (104), and an optical spectrometer (103).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5,7-10, 12,18,20-23,25,33,35-39, 43 and 44 rejected under 35 U.S.C. 103(a) as being unpatentable over Spangler (US 6124592).

Re clms 7-9, 20-22,35-37,44-46: Spangler discloses the claimed invention except for the specific range of values claimed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the voltage applied as claimed in order enable an accurate emission detection, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Re clms 10,23,38,47: Spangler discloses the claimed invention except for the tube being plastic. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the tube from plastic in order enable accurate emission detection, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Claims 5,12,18,25,33,39,43,49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spangler in view of Pulsed Discharge Helium Ionization Detector (Wentworth et al Chromatographia Vol 34, No.5-8, September/October 1992).

Spangler discloses the claimed invention as noted above. However, Spangler does not disclose the gas is helium, or a window at one end of the tube. Pulsed Discharge Helium Ionization Detector teaches that helium should be used as the gas and also teaches that a window should be placed at one end of the tube in order enable accurate emission detection. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the gas of Spangler be helium and to place a window at one end of the tube of Spangler as suggested by Pulsed Discharge Helium Ionization Detector because it would ensure accurate emission detection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Guevremont et al 6504149, Marchitto et al 6387059 and Marchitto et al 6056738.

Note: a signed copy of the IDS filed 5-28-02 is attached to this office action.

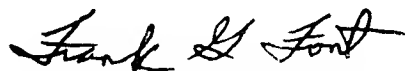
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khaled Brown whose telephone number is 703-306-5738. The examiner can normally be reached on M-F 8:30am-5pm.

Art Unit: 2877

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703-308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

KB
August 1, 2003

A handwritten signature in black ink, appearing to read "Frank G. Font". The signature is stylized with a large, flowing "F" and a cursive "Font".

Frank Font
Supervisory Patent Examiner
Art Unit 2877